DOCUMENT-IDENTIFIER: US 6113251 A
TITLE: Transmission screen system

DEPR:
We noticed that, in order to make the phases of imaging light rays ununiform with high efficiency, it is desirable to convert rays which emerge from each aperture of a projector having a light bulb into waves of various phases by means of diffusion, thereby allowing them to interfere with rays emerging from other apertures. Specifically, we found that glaring which is caused on an image projected onto the lenticular lens sheet 10 of the transmission screen is drastically reduced when the size of the maximum diffusing element relative to the picture element pitch (**pixel** pitch) is made **smaller** than a predetermined value as will be described hereinafter. The present invention was accomplished on the basis of this finding.

DEPR:
On the contrary, when the size of the diffusing element is made **smaller** with respect to the **pixel** pitch, the number of the diffusing elements becomes large as compared with the case where the diffusing element is large. As a result, the number of times that rays are refracted or reflected is increased, and the degree of turbulence of phases becomes high.

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DOCUMENT-IDENTIFIER: US 6046846 A
TITLE: Image projection screen having diffuser to spread light

BSPR:
As noted in U.S. Pat. No. 5,196,960 Moire interference is suppressed by another extra light-diffusing layer in the proximity of the exit surface of the screen. In the screen according to the invention, the first lens structure of the screen has considerably **smaller** dimensions than the **pixels** in the projected state, so that Moire interference is prevented. In this way, the extra layer, which causes additional diffusion and thus gives rise to a reduction of the brightness and the resolution of the screen, can be dispensed with.

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DOCUMENT-IDENTIFIER: US 5485308 A
TITLE: Rear-projection type image display apparatus and rear-projection type screen

BSPR:
In FIG. 2, as previously described, the light entrance surface 21 of the Fresnel lens sheet 2 has such a shape that a plurality of the horizontally elongate lenticular lenses constructed of a portion of a cylinder along the longitudinal direction corresponding to the screen horizontal direction are arranged along the vertical direction of the screen. A pitch of this horizontally elongate lenticular lense is selected to be **smaller** than the pitch of the scanning line for the projected image, or the pitch of the **pixel**. Furthermore, the pitch of the lenticular lenses is determined so that Moire resulting from interference between the lenticular lenses and the scanning lines and Moire resulting from interference between the lenticular lenses and portions of the rings of the Fresnel lens of the Fresnel lens sheet 2, corresponding to the upper and lower portions of the screen are minimized.

DEPR:
The pitch of the horizontally elongate lenticular lenses must be **smaller** than the pitch of the scanning lines or the pitch of the **pixels,** and the pitch of the horizontally elongate lenticular lenses must be determined taking into consideration the combined effect of the setbacks of the Fresnel lens and the horizontally elongate lenticular lenses of the first lenticular lens sheet 3 on the occurrence of Moire.

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